

REMARKS

By the above amendments, applicant has amended claim 1, and canceled the rest without prejudice. No new matter has been entered. Assuming that claim 1 is pending.

Claim Rejections Under 35 U.S.C. 103

Claims 1, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5,949,511) in view of Shimoshikiyo et al (US 6,130,739).

In response to this rejection, applicant has amended independent claim 1 to patentably distinguish it from the cited reference and to better express the claimed subject matter. In particular, the subject matter of amended claim 1 as highlighted below is contained in paragraph [0018] of the specification as originally filed, and was recited in original claim 6. No new matter has been entered. Applicant respectfully submits that claim 1 is now patentable for the following reasons:

Amended claim 1 recites in part:

"[an] In Plane Switching liquid crystal display comprising...a plurality of conductive spacers formed on the common electrodes and the pixel electrodes...wherein each of the spacers comprises a spacer rib having a form of a parallelepiped and being made entirely from SiO₂, and a conductive film provided on all surfaces of the spacer rib."

Park discloses a first substrate and a second substrate disposed opposite each other and spaced apart from each other a predetermined distance. A liquid crystal layer is interposed between the first substrate and the second

substrate. A plurality of common electrodes and pixel electrodes are formed on the second substrate parallel to each other, and a plurality of conductive spacers is formed on the common electrodes and the pixel electrodes. The conductive spacers are *spherical*.

Applicant submits that Park does not teach or suggest the IPS-LCD comprising a plurality of conductive spacers each of which comprises a spacer rib having a form of a *parallelepiped* and being made entirely from SiO_2 , and a conductive film provided on all surfaces of the spacer rib, as recited in amended claim 1. Shimoshikiryō et al discloses a pair of transverse electric field electrodes. These electrodes are a pixel electrode and a common electrode, extend upward from a substrate, and can function as spacers. Shimoshikiryō et al does not disclose a plurality of spacers formed on the common electrodes and the pixel electrodes, each of which comprises a spacer rib having a form of a *parallelepiped* and being made entirely from SiO_2 , and a conductive film provided on all surfaces of the spacer rib. Accordingly, any combination of Park and Shimoshikiryō et al does not teach or suggest the IPS-LCD comprising a plurality of conductive spacers each of which comprises a spacer rib having a form of a *parallelepiped* and being made entirely from SiO_2 , and a conductive film provided on all surfaces of the spacer rib, as recited in amended claim 1.

In addition, as regards the subject matter of amended claim 1 as highlighted above and Examiner's remarks on p.4 of the Office action in relation to the disclosure of Morii et al further to the disclosures of Park and Shimoshikiryō et al, applicant asserts that Morii et al discloses a spacer (8) totally made of glass and a flag portion formed of metal which is not provided on all surfaces of the spacer (8). That is, the spacer (8) itself is insulating. Furthermore, common glass is mostly constructed of silicate, and *pure* silicon dioxide has not been used in conventional spacers. There

is nothing in Morii et al that teaches or suggests to one of ordinary skill in the art that he or she might or should provide the IPS-LCD comprising the conductive spacers each of the which "comprises a spacer rib...being made entirely from SiO₂, and a conductive film provided on all surfaces of the spacer rib," as recited in amended claim 1. Therefore the combination of Park, Shimoshikiryo et al and Morii et al fails to teach or suggest the above-described IPS-LCD.

Moreover, the IPS-LCD as recited in amended claim 1 produces new and unexpected results. That is, the spacer comprising a rib made entirely from SiO₂ and a conductive film is much more inexpensive than a transverse electric field electrode being made from transparent conductive material. Therefore the IPS-LCD of claim 1 has a relatively low cost.

Accordingly, amended claim 1 is submitted to be not only unobvious and patentable over Park in view of Shimoshikiryo et al. under 35 U.S.C. 103(a), but also unobvious and patentable over Park and Shimoshikiryo et al. in view of Morii et al under 35 U.S.C. 103(a). Reconsideration and withdrawal of the rejection of claim 1 are respectfully requested.

Applicant refers to and relies upon the above remarks regarding amended claim 1 and Park in view of Shimoshikiryo et al. Further, Matsumoto merely discloses partition walls (9c) which may be formed of ITO. There is nothing in Matsumoto et al that teaches or suggests to one of ordinary skill in the art that he or she might or should provide the IPS-LCD comprising the conductive spacers each of the which "comprises a spacer rib being made entirely from SiO₂, and a conductive film provided on all surfaces of the spacer rib," as recited in amended claim 1. Therefore the combination of Park, Shimoshikiryo et al and Matsumoto fails to teach or suggest the IPS-LCD having the above-described features. That is,

amended claim 1 is submitted to be unobvious and patentable over Park and Shimoshikiryo et al in view of Matsumoto under 35 U.S.C. 103(a).

In view of the foregoing, the present application as claimed in the pending claims is considered to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,

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